

Analytical Comparison of Attitude Change to Integrated Management of Urban Water/Wastewater in the Development Plans of Iran

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ABSTRACT

The main purpose of this study is an analytical comparison of attitude change to integrated management of urban water/wastewater in the development plans of Iran, before and after the Islamic Revolution. The results indicate that there are four periods of changes in attitude towards this issue in Iran. The first period was initiated to launch planning thinking. In the second period, which lasted till before the Islamic Revolution, the planning system in Iran, after gaining experience, has undergone a dramatic change and some issues such as national coverage of the wastewater collection system, reliable water supply and minimum price of water, were mentioned in the development plans for the first time. In the end years of this period, planning in Iran was matured and all aspects of integrated management except water treatment had been considered. The third period came simultaneously with the revision of the constitution of Iran, after the revolution. In this period, supported by macro policies after the mid-2000s, a period of excellence in the approach of integrated management of urban water and wastewater was created. Also, a macro roadmap in the planning system of Iran was developed. The fourth period of attitude changes began with the beginning of the second step of the revolution and will last until 2065. In this period, the "Islamic-Iranian Model of Progress", as an upstream framework of the macro policies and development plans, have a significant role in establishing an integrated urban water and wastewater management approach in future development plans.

KEYWORDS

Attitude Change, Integrated Management, Urban Water and Wastewater, Development Plans, Iran.

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1. Introduction

Urban water/wastewater cycle sections including water resources, water treatment, distribution systems, water consumption, wastewater collection and treatment are intricately linked. In the conventional management approaches, these different sections are not considered as “integrated” [1-6]. Furthermore, treated wastewater as an additional source of water has received less attention [7]. In contrast to conventional approaches, there is an integrated urban water/wastewater management approach [2]. The most important goal of using this approach is to achieve sustainable development in the long-term. [8, 9]. Figure 1 shows the urban water/wastewater cycle proposed by the researchers from the perspective of integrated management.

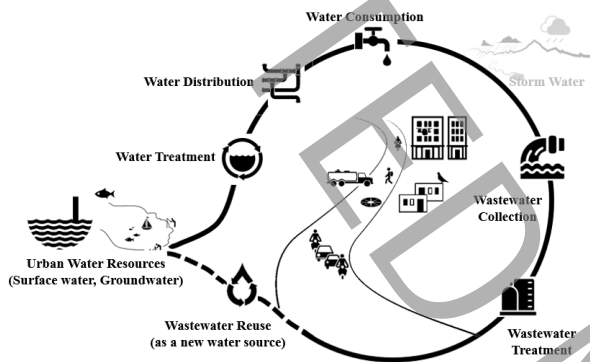


Figure 1. Proposed urban water/wastewater cycle from the perspective of integrated management

In Iran, with its long history of planning, the critical question is: “what roles do different sectors play in the integrated approach of urban water/wastewater management, within the development plans before and after the Islamic Revolution?” In addition, was the progress of implementation, in accordance with the development plans? What are the main challenges and at which levels? Investigating this issue will both help to understand the attitude changes in this field and also, will pave the way for improving the future development plans.

The main purpose of this study is an analytical comparison of attitude changes in the integrated management of urban water/wastewater within the development plans of Iran, before and after the Islamic Revolution.

2. Methodology

The descriptive-analytical research methodology is used in this study which employs a range of historical data.

The aim of this study was to answer the following questions:

1. What has been the trend of development plans in Iran?
2. What has been the attitude towards urban water/wastewater in each development plan?
3. How does each section of the integrated urban water/wastewater management considered in development plans?
4. Was the level of attention to different parts of the urban water/wastewater higher after the Islamic revolution?
5. Which part of the integrated urban water/wastewater management has been neglected in development plans?
6. To what extent have the established goals in the development plans were achieved for each section of the integrated water/wastewater management?
7. How should the issue of urban water/wastewater be considered in the next development plan?

In order to find the answers of the above questions, the history of planning in Iran from the first development plan before the revolution to the sixth development plan after the revolution, is analyzed based on different sections of the integrated urban water/wastewater management. Then, based on the acquired information, the attitude change this subject is critically investigated. Also, the coincidence of macro policies and their impact on development plans is also discussed.

3. Discussion and Results

The results indicate that there are four periods of changes in attitude towards this issue in Iran from 1927 to 2065. The general division of this period is shown in Figure 2.

As is shown in Figure 2, before the Islamic-revolution, the first and second periods of attitude changes in this field were shaped, in which the second period included three different steps. Also, after the revolution, in the third period of attitude changes, three new steps have been realized and the fourth period is being shaped.

The first period was initiated to launch planning thinking. In the second period, which lasted till before the revolution, the planning system in Iran, after gaining experience, has undergone a dramatic change and some issues such as national coverage of the wastewater collection system, reliable water supply and minimum price of water, were mentioned in the development plans for the first time.

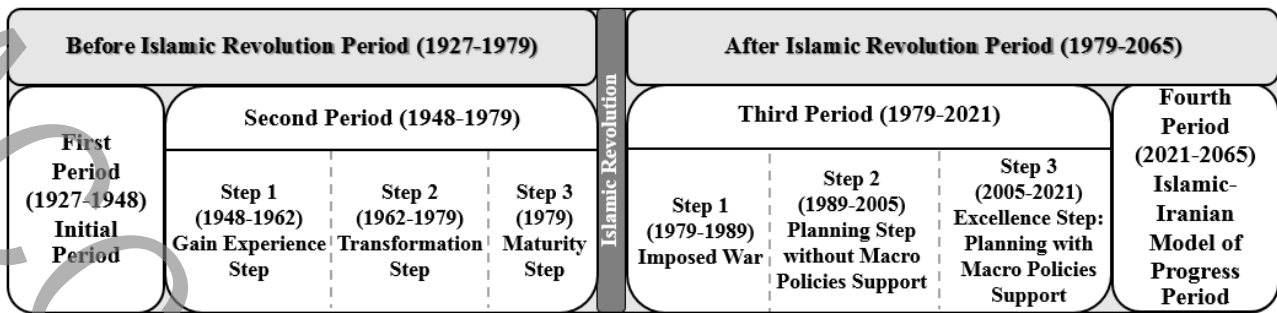


Figure 2. The division of different periods in the attitude changes towards urban water/wastewater in Iran

In the end years of this period, planning in Iran was matured and all aspects of integrated management except water treatment had been considered. The third period came simultaneously with the revision of the constitution of Iran, after the revolution. In this period, supported by macro policies after the mid-2000s, a period of excellence in the approach of integrated management of urban water and wastewater was created. Also, a macro roadmap in the planning system of Iran was developed.

The fourth period of attitude changes began with the beginning of the second step of the revolution and will last until 2065. In this period, the "Islamic-Iranian Model of Progress", as an upstream framework of the macro policies and development plans, have a significant role in establishing an integrated urban water and wastewater management approach in future development plans.

4. Conclusions

Considering the remaining opportunities to complete and upgrade the "Basic Islamic-Iranian Model of Progress", the results of the obtained attitude changes of this research can be applied in this model. On the other hand, due to the short time remaining until the compilation and launch of the seventh development plan of Iran (for 2021-2026), now is the best opportunity to develop a fully practical plan on the integrated urban water/wastewater management, in line with the country's macro policies.

In the end, according to the results of this research, it is suggested that the following items be considered to achieve the integrated urban water/wastewater management in Iran:

- 1- Establishing integrated macro policies in the field of urban water/wastewater.
- 2- The need to consider the concepts of "future studies" in this field in order to identify the milestones.
- 3- Not having a mandatory view in development planning and considering public participation and social, cultural and political requirements.

4- The need to address the missing sections, such as the quality of urban water treatment in the "water treatment" section and also the creation of political, cultural, religious and technological contexts in the "reusing the treated wastewater as a water source" section.

5- The need to consider privatization, based on the general policies of Article 44 of the Constitution of Iran.

6- Participation of all stakeholders, including municipalities, engineering organization.

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